09-05-00

A

PATENT

Atty. Docket No. 4285-16408-CIP

Box Patent Application

Commissioner of Patents and Trademarks

Washington, D.C. 20231

NEW APPLICATION TRANSMITTAL

Transmitted herewith for filing is the patent application of

Inventor: Gary J. Pond

WARNING: Patent must be applied for in the name(s) of all of the actual inventor(s). 37 CFR 1.41(a) and 1.53(b).

For (title): Nickel Titanium Dental Needle

1. Type of Application

This new application is for a(n) *(check one applicable item below):*

[ ] Original

[ ] Design

[ ] Plant

WARNING: Do not use this transmittal for a completion in the U.S. of an International Application under 35 U.S.C. 371(c)(4) unless the International Application is being filed as a divisional, continuation or continuation-in-part application.

NOTE: If one of the following 3 items apply then complete and attach ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF A PRIOR U.S. APPLICATION CLAIMED and a NOTIFICATION IN PARENT APPLICATION OF THE FILING OF THIS CONTINUATION APPLICATION.

[ ] Divisional

[ ] Continuation

[X] Continuation-in-part (CIP)

CERTIFICATION UNDER 37 CFR 1.10

I hereby certify that this New Application Transmittal and the documents referred to as enclosed therein are being deposited with the United States Postal Service on this date 1 September 2000 in an envelope as "Express Mail Post Office to Addressee" Mailing Label Number EL 574874680 US addressed to the: Commissioner of Patents and Trademarks, Washington, D.C. 20231.

Julie A. Wolf
(type or print name of person mailing paper)

Julie A. Wolf
(Signature of person mailing paper)

NOTE: Each paper or fee referred to as enclosed herein has the number of the "Express Mail" mailing label placed thereon prior to mailing. 37 Cfr 1.10(b).

2. Benefit of Prior U.S. Application(s) (35 USC 120)

NOTE: If the new application being transmitted is a divisional, continuation or a continuation-in-part of a parent case, or where the parent case is an International Application which designated the U.S., then check the following item and complete and attach ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION(S) CLAIMED.

[X] The new application being transmitted claims the benefit of prior U.S. application(s) and enclosed are ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION(S) CLAIMED.

3. Papers Enclosed Which Are Required For Filing Date Under 37 CFR 1.53(b) (Regular) or 37 CFR 1.153 (Design) Application

__10__ Pages of specification

__4__ Pages of claims

__1__ Pages of Abstract

__7__ Sheets of drawing

[ ] formal

[X] informal

WARNING: DO NOT submit original drawings. A high quality copy of the drawings should be supplied when filing a patent application. The drawings that are submitted to the Office must be on strong, white, smooth, and non-shiny paper and meet the standards according to ' 1.84. If corrections to the drawings are necessary, they should be made to the original drawing and a high-quality copy of the corrected original drawing then submitted to the Office. Only one copy is required or desired. Comments on proposed new 37 CFR 1.84. Notice of March 9, 1988 (1990 o.G. 57-62).

NOTE: Identifying indicia such as the serial number, group and unit, title of the invention, attorney's docket number, inventor's name, number of sheets, etc., not to exceed 23/4 inches (7.0 cm.) in width may be placed in a centered location between the side edges within three fourths inch (19.1 mm.) of the top edge. Either this marking technique on the front of the drawing or the placement, although not preferred, of this information and the title of the invention on the back of the drawings is acceptable." Proposed 37 CFR 1.84(1). Notice of March 9, 1988 (1090 O.G. 57-62).

4. Additional papers enclosed

[ ] Preliminary Amendment

[ ] Information Disclosure Statement (37 CFR 1.98)

[ ] Form PTO-1449

[ ] Citations

[ ] Declaration of Biological Deposit

[ ] Submission of "Sequence Listing," computer readable copy and/or amendment pertaining thereto for biotechnology invention containing nucleotide and/or amino acid sequence.

[ ] Authorization of Attorney(s) to Accept and Follow Instructions from Representative

[ ] Special Comments

[ ] Other

5. Declaration or oath

[X] Enclosed

executed by *(check all applicable boxes)*

[X] inventor.

[ ] legal representative of inventor(s). 37 CFR 1.42 or 1.43

[ ] joint inventor or person showing a proprietary interest on behalf of inventor who refused to sign or cannot be reached.

[ ] this is the petition required by 37 CFR 1.47 and the statement required by 37 CFR 1.47 is also attached. *See item 13 below for fee.*

[ ] Not Enclosed.

WARNING: *Where the filing is a completion in the U.S. of an International Application but where a declaration is not available or where the completion of the U.S. application contains subject matter in addition to the International Application the application may be treated as a continuation or continuation-inpart, as the case may be, utilizing ADDED PAGE FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION CLAIMED.*

[ ] Application is made by a person authorized under 37 CFR 1.41(c) on behalf of all the above named inventor(s). (The declaration or oath, along with the surcharge required by 37 CFR 1.16(E) can be filed subsequently).

NOTE: *It is important that all the correct inventor(s) are named for filing under 37 CFR 1.41(c) and 1.53(b).*

[ ] Showing that the filing is authorized. *(Not required unless called into question. 37 CFR 1.41(d).*

6. Inventorship Statement

WARNING: *If the named inventors are each not the inventors of all the claims an explanation, including the ownership of the various claims at the time the last claimed invention was made, should be submitted.*

The inventorship for all the claims in this application are:

[X] The same or

[ ] Are not the same. An explanation, including the ownership of the various claims at the time the last claimed invention was made,

[ ] is submitted.

[ ] will be submitted.

7. Language

NOTE: *An application including a signed oath or declaration may be filed in a language other than English. A verified English translation of the non-English language application and the processing fee of $130.00 required by 37 CFR 1.17(k) is required to be filed with the application or within such time as may be set by the Office. 37 CFR 1.52(d).*

NOTE: A non-English oath or declaration in the form provided or approved by the PTO need not be translated. 37 CFR 1.69(b).

[X] English

[ ] non-English

[ ] the attached translation is a verified translation. 37 CFR 1.52(d).

8. Assignment

[ ] An assignment of the invention to _____

_____

[ ] is attached. A separate [ ] "COVER SHEET FOR ASSIGNMENT (DOCUMENT) ACCOMPANYING NEW PATENT APPLICATION" or [ ] FORM PTO 1595 is also attached.

[ ] will follow.

NOTE: "If an assignment is submitted with a new application, send two separate letters-one for the application and one for the assignment." Notice of May 4, 1990 (1114 O.G. 77-78).

WARNING: A newly executed "CERTIFICATE UNDER 37 CFR 3.73(b)" must be filed when a continuation--in-part application is filed by an assignee. Notice of April 30, 1993, 1150 O.G. 62-64.

9. Certified Copy

Certified copy(ies) of application(s)

(country)	(appln. no.)	(filed)
(country)	(appln. no.)	(filed)
(country)	(appln. no.)	(filed)

from which priority is claimed

[ ] is(are) attached.

[ ] will follow.

NOTE: The foreign application forming the basis for the claim for priority must be referred to in the oath or declaration. 37 CFR 1.55(A) AND 1.63.

NOTE: This item is for any foreign priority for which the application being filed directly relates. If any parent U.S. application or International Application from which this application claims benefit under 35 U.S.C. 120 is itself entitled to priority from a prior foreign application then complete item 18 on the ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION(S) CLAIMED.

10. Fee Calculation (37 CFR 1.16)

A. [X] Regular application

CLAIMS AS FILED

	Number filed		Number Extra		Rate	Basic Fee 37 CFR 1.16(a) $690.00
Total Claims (37 CFR 1.16(c))	23	-20=	3	X	$ 18.00	$54.00
Independent Claims (37 CFR 1.16(b))	3	-3=	0	X	$78.00	$0.00
Multiple dependent claim(s), if any (37 CFR 1.16(d))			0	+	$260.00	$0.00

[ ] Amendment cancelling extra claims enclosed.

[ ] Amendment deleting multiple-dependencies enclosed.

[ ] Fee for extra claims is not being paid at this time.

NOTE: If the fees for extra claims are not paid on filing they must be paid or the claims cancelled by amendment, prior to the expiration of the time period set for response by the Patent and Trademark Office in any notice of fee deficiency. 37 CFR 1.16(d).

Filing Fee Calculation $744.00

B. [ ] Design application ($330.00-37 CFR 1.16(f))

Filing Fee Calculation $ _____

C. [ ] Plant application ($540.00-37 CFR 1.16(g))

Filing fee calculation $ _____

11. Small Entity Statement(s)

[X] Verified Statement(s) that this is a filing by a small entity under 37 CFR 1.9 and 1.27 is(are) attached.

Filing Fee Calculation (50% of A, B or C above) $372.00

NOTE: Any excess of the full fee paid will be refunded if a verified statement and a refund request are filed within 2 months of the date of timely payment of a full fee. 37 CFR 1.28(a).

12. Request for International-Type Search (37 CFR 1.104(d)) (complete, if applicable)

[ ] Please prepare an international-type search report for this application at the time when national examination on the merits takes place.

13. Fee Payment Being Made At This Time

[ ] Not Enclosed

[ ] No filing fee is to be paid at this time. *(This and the surcharge required by 37 CFR 1.16(e) can be paid subsequently.)*

[X] Enclosed

[X] basic filing fee $372.00

[ ] recording assignment ($40.00; 37 CFR 1.21(h))(See attached "COVER SHEET FOR ASSIGNMENT ACCOMPANYING NEW APPLICATION".) $ _____

[ ] petition fee for filing by other than all the inventors or person on behalf of the inventor where inventor refused to sign or cannot be reached. ($130.00; 37 CFR 1.47 and 1.17(h)) $ _____

[ ] for processing an application with a specification in a non-English language. ($130.00; 37 CFR 1.52(d) and 1.17(k) $ _____

[ ] processing and retention fee ($130.00; 37 CFR 1.53(d) and 1.21(l))

[ ] fee for international-type search report ($40.00; 37 CFR 1.21(e)). $ _____

NOTE: 37 CFR 1.21(l) establishes a fee for processing and retaining any application which is abandoned for failing to complete the application pursuant to 37 CFR 1.53(d) and this, as well as the changes to 37 CFR 1.53 and 1.78, indicate that in order to obtain the benefit of a prior U.S. application, either the basic filing fee must be paid or the processing and retention fee of ' 1.21(l) must be paid within 1 year from notification under ' 53(d).

Total fees enclosed $372.00

14. Method of Payment of Fees

[X] Check in the amount of $372.00.

[ ] Charge Account No. __ in the amount of $ ___. A duplicate of this transmittal is attached.

NOTE: Fees should be itemized in such a manner that it is clear for which purpose the fees are paid. 37 CFR 1.22(b).

15. Authorization to Charge Additional Fees

WARNING: If no fees are to be paid on filing the following items should not be completed.

WARNING: Accurately count claims, especially multiple dependent claims, to avoid unexpected high charges, if extra claim charges are authorized.

[X] The Commissioner is hereby authorized to charge the following additional fees by this paper and during the entire pendency of this application to Account No. 06-2360

[X] 37 CFR 1.16(a), (f) or (g) (filing fees)

[X] 37 CFR 1.16(b), (c) and (d) (presentation of extra claims)

NOTE: Because additional fees for excess or multiple dependent claims not paid on filing or on later presentation must only be paid or these claims cancelled by amendment prior to the expiration of the time period set for response by the PTO in any notice of fee deficiency (37 CFR 1.16(d)), it might be best not to authorize the PTO to charge additional claim fees, except possibly when dealing with amendments after final action.

[X] 37 CFR 1.16(e) (surcharge for filing the basic filing fee and/or declaration on a date later than the filing date of the application)

[X] 37 CFR 1.17 (application processing fees)

WARNING: While 37 CFR 1.17(A), (b), (c) and (d) deal with extensions of time under ' 1.136(A) this authorization should be made only with the knowledge that: "submission of the appropriate extension fee under 37 C.F.R. 1.136(A) is to no avail unless a request or petition for extension is filed." (Emphasis added). Notice of November 5, 1985 (1060 O.G.27).

[ ] 37 CFR 1.18 (issue fee at or before mailing of Notice of Allowance, pursuant to 37 CFR 1.311(b))

NOTE: Where an authorization to charge the issue fee to a deposit account has been filed before the mailing of a Notice of Allowance, the issue fee will be automatically charged to the deposit account at the time of mailing the notice of allowance. 37 CFR 1.311(b).

NOTE: 37 CFR 1.28(b) requires "Notification of any change in loss of entitlement to small entity status must be filed in the application ... prior to paying, or at the time of paying, ... issue fee". From the wording of 37 CFR 1.28(b): (a) notification of change of status must be made even if the fee is paid as "other than a small entity" and (b) no notification is required if the change is to another small entity.

16. Instructions As To Overpayment

[X] credit Account No. 06-2360

[ ] refund

SIGNATURE OF ATTORNEY

Reg. No. 38,957

John M. Manion
(type or print name of attorney)
RYAN KROMHOLZ & MANION, S.C.
Post Office Box 26618
(P.O. Address)
Milwaukee, Wisconsin 53226-0618

Tel. No. (262) 783-1300

[X] Incorporation by reference of added pages

Check the following item if the application in this transmittal claims the benefit of prior U.S. application(s) (including an international application entering the U.S. stage as a continuation, divisional or C-I-P application) and complete and attach the ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION(S) CLAIMED

[X] Plus Added Pages For New Application Transmittal Where Benefit Of Prior U.S. Application(s) Claimed

Number of pages added 4

[ ] Plus Added Pages For Papers Referred To In Item 4 Above

Number of pages added _____

[ ] Plus "Assignment Cover Letter Accompanying New Application"

Number of pages added _____

[ ] Statement Where No Further Pages Added

(If no further pages form a part of this Transmittal then end this Transmittal with this page and check the following item)

[ ] This transmittal ends with this page.

ADDED PAGES FOR APPLICATION TRANSMITTAL WHERE BENEFIT OF PRIOR U.S. APPLICATION(S) CLAIMED

NOTE: "In order for an application to claim the benefit of a prior filed copending national application, the prior application must name as an inventor at least one inventor named in the later filed application and disclose the named inventor's invention claimed in at least one claim of the later filed application in the manner provided by the first paragraph of 35 U.S.C. 112." 37 CFR 1.78(a).

NOTE: "N ADDITION THE PRIOR APPLICATION MUST BE (1) COMPLETE AS SET FORTH IN S 1.51, OR (2) ENTITLED TO A FILING DATE AS SET FORTH IN S 1.53(B) AND INCLUDE THE BASIC FILING FEE SET FORTH IN S 1.16; OR (3) ENTITLED TO A FILING DATE AS SET FORTH IN S 1.53(B) AND HAVE PAID THEREIN THE PROCESSING AND RETENTION FEE SET FORTH IN S 1.21(L) WITHIN THE TIME PERIOD SET FORTH IN S 1.53(D)."37 CFR 1.78(A).

17. Relate Back-35 U.S.C. 120

NOTE: "NY APPLICATION CLAIMING THE BENEFIT OF A PRIOR FILED COPENDING NATIONAL OR INTERNATIONAL APPLICATION MUST CONTAIN OR BE AMENDED TO CONTAIN IN THE FIRST SENTENCE OF THE SPECIFICATION FOLLOWING THE TITLE A REFERENCE TO SUCH PRIOR APPLICATION IDENTIFYING IT BY SERIAL NUMBER AND FILING DATE OR INTERNATIONAL APPLICATION NUMBER AND INTERNATIONAL FILING DATE AND INDICATING THE RELATIONSHIP OF THE APPLICATIONS." 37 CFR 1.78(A). SEE ALSO THE NOTICE OF APRIL 28, 1987 (1079 O.G. 32 TO 46).

[x] The Specification has been amended by the insertion of the following information before the first line:

Related Application:

This application claims the benefit of and is a continuation-in-part of copending United States Patent Application Serial Number 09/435,658 filed on 8 November 1999.

NOTE: THE PROPER REFERENCE TO A PRIOR FILED PCT APPLICATION WHICH ENTERED THE U.S. NATIONAL PHASE IS THE U.S. SERIAL NUMBER AND THE FILING DATE OF THE PCT APPLICATION WHICH DESIGNATED THE U.S.

NOTE: (1) WHERE THE APPLICATION BEING TRANSMITTED ADDS SUBJECT MATTER TO THE INTERNATIONAL APPLICATION THEN THE FILING CAN BE AS A CONTINUATION-IN-PART OR (2) IT IS DESIRED TO DO SO FOR OTHER REASONS, E.G. WHERE NO DECLARATION IS AVAILABLE, NO ENGLISH TRANSLATION IS AVAILABLE OR NO FEE IS TO BE PAID ON FILING THEN THE FILING CAN BE AS A CONTINUATION. IN THESE CASES THE INTERNATIONAL APPLICATION DESIGNATING THE U.S. IS TREATED AS THE PARENT CASE IN THE U.S. AND IS AN ALTERNATIVE TO THE COMPLETION OF THE INTERNATIONAL APPLICATION UNDER 35 U.S.C. 371(C)(4) WHICH MUST MEET THE REQUIREMENTS OF 37 CFR 1.61(A). THIS ALTERNATIVE PERMITS THE COMPLETION OF THE FILING REQUIREMENTS WITHIN ANY TERM SET BY THE PTO UNDER 37 CFR 1.53(D) TO WHICH THE EXTENSION PROVISIONS OF 37 CFR 1.136(A) APPLY. (WHEREAS, IF THE FILING IS AS AN INTERNATIONAL APPLICATION ENTERING THE U.S. STAGE THEN THE FEE, DECLARATION AND/OR ENGLISH TRANSLATION (WHERE NECESSARY) IS DUE WITHIN 20 MONTHS OF THE PRIORITY DATE BUT CAN BE PAID WITHIN 22 MONTHS OF THE PRIORITY DATE (OR IS DUE WITHIN 30 MONTHS OF THE PRIORITY DATE BUT CAN BE SUBMITTED WITHIN 32 MONTHS OF THE PRIORITY DATE) WITH THE SURCHARGES SET FORTH IN 37 CFR 1.492(E), (F) AND 37 CFR 1.495(C); HOWEVER, THE PROVISIONS OF 37 CFR 1.136 DO NOT APPLY TO THIS 22 OR (32 MONTH) PERIOD. 37 CFR 1.61(B).)

NOTE: THE DEADLINE FOR ENTERING THE NATIONAL PHASE IN THE U.S. FOR AN INTERNATIONAL APPLICATION WAS CLARIFIED IN THE NOTICE OF APRIL 28, 1987 (1079 O.G. 32 TO 46) AS FOLLOWS:

"The Patent and Trademark Office considers the International application to be pending until the 22nd month from the priority date if the United States has been designated and no Demand for International Preliminary Examination has been filed prior to the expiration of the 19th month from the priority date and until the 32nd month from the priority date if a Demand for International Preliminary Examination which elected the United States of America has been filed prior to the expiration of the 19th month from the priority date, provided that a copy of the international application has been communicated to the Patent and Trademark Office within the 20 or 30 month period respectively. If a copy of the international application has not been communicated to the Patent and Trademark Office within the 20 or 30 month period respectively, the international application becomes abandoned as to the United States 20 or 30 months from the priority date respectivley. These periods have been placed in the rules as paragraph (h) of S 1.494 and paragraph (i) of S 1.495. A continuing application under 35 U.S.C. 365(c) and 120 may be filed anytime during the pendency of the international application."

18. Relate Back-35 U.S.C. 119 Priority Claim for Prior Application

The prior U.S. application(s), including any prior International Application designating the U.S., identified above in item 17, in turn itself claim(s) foreign priority (ies) as follows:

country	appl. no.	filed on

The certified copy (ies) has (have)

[ ] been filed on _____ in prior application 0 /_____ which was filed on _____.

[ ] is (are) attached

WARNING: THE CERTIFIED COPY OF THE PRIORITY APPLICATION WHICH MAY HAVE BEEN COMMUNICATED TO THE PTO BY THE INTERNATIONAL BUREAU MAY NOT BE RELIED ON WITHOUT ANY NEED TO FILE A CERTIFIED COPY OF THE PRIORITY APPLICATION IN THE CONTINUING APPLICATION. THIS IS SO BECAUSE THE CERTIFIED COPY OF THE PRIORITY APPLICATION COMMUNICATED BY THE INTERNATIONAL BUREAU IS PLACED IN A FOLDER AND IS NOT ASSIGNED A U.S. SERIAL NUMBER UNLESS THE NATIONAL STAGE IS ENTERED. SUCH FOLDERS ARE DISPOSED OF IF THE NATIONAL STAGE IS NOT ENTERED. THEREFORE SUCH CERTIFIED COPIES MAY NOT BE AVAILABLE IF NEEDED LATER IN THE PROSECUTION OF A CONTINUING APPLICATION. AN ALTERNATIVE WOULD BE TO PHYSICALLY REMOVE THE PRIORITY DOCUMENTS FROM THE FOLDERS AND TRANSFER THEM TO THE CONTINUING APPLICATION. THE RESOURCES REQUIRED TO REQUEST TRANSFER, RETRIEVE THE FOLDERS, MAKE SUITABLE RECORD NOTATIONS, TRANSFER THE CERTIFIED COPIES, ENTER AND MAKE A RECORD OF SUCH COPIES IN THE CONTINUING APPLICATION ARE SUBSTANTIAL. ACCORDINGLY, THE PRIORITY DOCUMENTS IN FOLDERS OF INTERNATIONAL APPLICATIONS WHICH HAVE NOT ENTERED THE NATIONAL STAGE MAY NOT BE RELIED ON. NOTICE OF APRIL 28, 1987 (1079 O.G. 32 TO 46).

19. Maintenance of Copendency of Prior Application

NOTE: THE PTO FINDS IT USEFUL IF A COPY OF THE PETITION FILED IN THE PRIOR APPLICATION EXTENDING THE TERM FOR RESPONSE IS FILED WITH THE PAPERS CONSTITUTING THE FILING OF THE CONTINUATION APPLICATION. NOTICE OF NOVEMBER 5, 1985 (1060 O.G. 27).

A. [ ] Extension of time in prior application

(This item MUST BE COMPLETED AND THE PAPERS FILED IN THE PRIOR APPLICATION IF THE PERIOD SET IN THE PRIOR APPLICATION HAS RUN)

[ ] A petition, fee and response extends the term in the pending prior application until _____.

[ ] A copy of the petition filed in prior application is attached

B. [ ] Conditional Petition for Extension of Time in Prior Application

(complete this item if previous item not applicable)

[ ] A conditional petition for extension of time is being filed in the pending prior application.

[ ] A copy of the conditional petition filed in the prior application is attached

20. Further Inventorship Statement Where Benefit of Prior Application(s) Claimed

NOTE: IF THE CONTINUATION, CONTINUATION-IN-PART, OR DIVISIONAL APPLICATION IS FILED BY LESS THAN ALL THE INVENTORS NAMED IN THE PRIOR APPLICATION A STATEMENT MUST ACCOMPANY THE APPLICATION WHEN FILED REQUESTING DELETION OF THE NAMES OF THE PERSON OR PERSONS WHO ARE NOT INVENTORS OF THE INVENTION BEING CLAIMED IN THE CONTINUATION, CONTINUATION-IN-PART, OR DIVISIONAL APPLICATION. 37 CFR 1.62(A) [EMPHASIS ADDED]. (DEALING WITH THE FILE WRAPPER CONTINUATION SITUATION).

NOTE: IN THE CASE OF A CONTINUATION-IN-PART APPLICATION WHICH ADDS AND CLAIMS ADDITIONAL DISCLOSURE BY AMENDMENT, AN OATH OR DECLARATION AS REQUIRED BY S 1.63 MUST BE FILED. IN THOSE SITUATIONS WHERE A NEW OATH OR DECLARATION IS REQUIRED DUE TO ADDITIONAL SUBJECT MATTER BEING CLAIMED, ADDITIONAL INVENTORS MAY BE NAMED IN THE CONTINUING APPLICATION. IN A CONTINUATION OR DIVISIONAL APPLICATION WHICH DISCLOSES AND CLAIMS ONLY SUBJECT MATTER DISCLOSED IN A PRIOR APPLICATION, NO ADDITIONAL OATH OR DECLARATION IS REQUIRED AND THE APPLICATION MUST NAME AS INVENTORS THE SAME OR LESS THAN ALL THE INVENTORS IN THE PRIOR APPLICATION. 37 CFR 1.60(C). (DEALING WITH THE CONTINUATION SITUATION).

(complete applicable item (a), (b) and/or (c) below)

(a) [ ] This application discloses and claims only subject matter disclosed in the prior application whose particulars are set out above and the inventor(s) in this application are

[ ] the same.
[ ] less than those named in the prior application and it is requested that the following inventor(s) identified for the prior application be deleted:

_____
(type name(s) of inventor(s) to be deleted)

(b) [X] This application discloses and claims additional disclosure and a new declaration or oath is being filed. With respect to the prior application the inventor(s) in this application are

[ ] the same.
[X] less than those named in the prior application and it is requested that the following inventor(s) identified for the prior application be deleted:

Christopher A. Thierfelder
(type name(s) of inventor(s) to be added)

(c) The inventorship for all the claims in this application are

[ ] the same.
[ ] not the same, and an explanation, including the ownership of the various claims at the time the last claimed invention was made
[ ] is submitted.
[ ] will be submitted.

21. Abandonment of Prior Application (if applicable)

[ ] Please abandon the prior application at a time while the prior application is pending or when the petition for extension of time or to revive in that application is granted and when this application is granted a filing date so as to make this application copending with said prior application.

NOTE: ACCORDING TO THE NOTICE OF MAY 13, 1983 (103, TMOG 6-7) THE FILING OF A CONTINUATION OR CONTINUATION-IN-PART APPLICATION IS A PROPER RESPONSE WITH RESPECT TO A PETITION FOR EXTENSION OF TIME OR A PETITION TO REVIVE AND SHOULD INCLUDE THE EXPRESS ABANDONMENT OF THE PRIOR APPLICATION CONDITIONED UPON THE GRANTING OF THE PETITION AND THE GRANTING OF A FILING DATE TO THE CONTINUING APPLICATION.

22. Petition for Suspension of Prosecution for the Time Necessary to File an Amendment

WARNING: THE CLAIMS OF A NEW APPLICATION MAY BE FINALLY REJECTED IN THE FIRST OFFICE ACTION IN THOSE SITUATIONS WHERE (1) THE NEW APPLICATION IS A CONTINUING APPLICATION OF, OR A SUBSTITUTE FOR, AN EARLIER APPLICATION, AND (2) ALL THE CLAIMS OF THE NEW APPLICATION (A) ARE DRAWN TO THE SAME INVENTION CLAIMED IN THE EARLIER APPLICATION, AND (B) WOULD HAVE BEEN PROPERLY FINALLY REJECTED ON THE GROUNDS OF ART OF RECORD IN THE NEXT OFFICE ACTION IF THEY HAD BEEN ENTERED IN THE EARLIER APPLICATION." MPEP, S 706.07(B).

NOTE: WHERE IT IS POSSIBLE THAT THE CLAIMS ON FILE WILL GIVE RISE TO A FIRST ACTION FINAL FOR THIS CONTINUATION APPLICATION AND FOR SOME REASON AN AMENDMENT CANNOT BE FILED PROMPTLY (E.G., EXPERIMENTAL DATA IS BEING GATHERED) IT MAY BE DESIRABLE TO FILE A PETITION FOR SUSPENSION OF PROSECUTION FOR THE TIME NECESSARY.

(check the next item, if applicable)

[ ] There is provided herewith a Petition To Suspend Prosecution for the Time Necessary to File An Amendment (New Application Filed Concurrently)

23. NOTIFICATION IN PARENT APPLICATION OF THIS FILING

[x] A notification of the filing of this (check one of the following)
- [ ] continuation
- [x] continuation-in-part
- [ ] divisional

is being filed in the parent application from which this application claims priority under 35 USC S 120.

VERIFIED STATEMENT (DECLARATION) CLAIMING SMALL ENTITY STATUS (37 CFR 1.9(f) AND 1.27 (c)) - SMALL BUSINESS CONCERN	Docket No. 4285-16408-CIP

Serial No.	Filing Date	Patent No.	Issue Date

Applicant/ Patentee: **Gary J. Pond**

Invention: **Nickel Titanium Dental Needle**

I hereby declare that I am:

- ☐ the owner of the small business concern identified below:
- ☒ an official of the small business concern empowered to act on behalf of the concern identified below:

NAME OF CONCERN: **Inter-Med, LLC.**

ADDRESS OF CONCERN: **2200 Northwestern Avenue, Racine, WI 53404**

I hereby declare that the above-identified small business concern qualifies as a small business concern as defined in 13 CFR 121.3-18, and reproduced in 37 CFR 1.9(d), for purposes of paying reduced fees under Section 41(a) and (b) of Title 35, United States Code, in that the number of employees of the concern, including those of its affiliates, does not exceed 500 persons. For purposes of this statement, (1) the number of employees of the business concern is the average over the previous fiscal year of the concern of the persons employed on a full-time, part-time or temporary basis during each of the pay periods of the fiscal year, and (2) concerns are affiliates of each other when either, directly or indirectly, one concern controls or has the power to control the other, or a third party or parties controls or has the power to control both.

I hereby declare that rights under contract or law have been conveyed to and remain with the small business concern identified above with regard to the above identified invention described in:

- ☒ the specification filed herewith with title as listed above.
- ☐ the application identified above.
- ☐ the patent identified above.

If the rights held by the above-identified small business concern are not exclusive, each individual, concern or organization having rights to the invention is listed on the next page and no rights to the invention are held by any person, other than the inventor, who could not qualify as an independent inventor under 37 CFR 1.9(c) or by any concern which would not qualify as a small business concern under 37 CFR 1.9(d) or a nonprofit organization under 37 CFR 1.9(e).

Each person, concern or organization to which I have assigned, granted, conveyed, or licensed or am under an obligation under contract or law to assign, grant, convey, or license any rights in the invention is listed below:

☒ no such person, concern or organization exists.
☐ each such person, concern or organization is listed below.

FULL NAME _____
ADDRESS _____
☐ Individual ☐ Small Business Concern ☐ Nonprofit Organization

FULL NAME _____
ADDRESS _____
☐ Individual ☐ Small Business Concern ☐ Nonprofit Organization

FULL NAME _____
ADDRESS _____
☐ Individual ☐ Small Business Concern ☐ Nonprofit Organization

FULL NAME _____
ADDRESS _____
☐ Individual ☐ Small Business Concern ☐ Nonprofit Organization

Separate verified statements are required from each named person, concern or organization having rights to the invention averring to their status as small entities. (37 CFR 1.27)

I acknowledge the duty to file, in this application or patent, notification of any change in status resulting in loss of entitlement to small entity status prior to paying, or at the time of paying, the earliest of the issue fee or any maintenance fee due after the date on which status as a small entity is no longer appropriate. (37 CFR 1.28(b))

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this verified statement is directed.

NAME OF PERSON SIGNING: **Gary J. Pond**

TITLE OF PERSON SIGNING OTHER THAN OWNER: **President**

ADDRESS OF PERSON SIGNING: **Inter-Med, LLC.**
2200 Northwestern Avenue
Racine, WI 53404

SIGNATURE: _____ DATE: 30 Aug 00

Patent
Atty. Docket No. 4285-16408-CIP

NICKEL TITANIUM DENTAL NEEDLE

This application claims the benefit of and is a continuation-in-part of copending United States Patent Application Serial Number 09/435,658 filed on 8 November 1999.

Background of the Invention

This invention relates to surgical needles, and in particular, needles used for endodontic procedures, such as root canal surgery. During endodontic procedures, such as root canals, it is necessary to inject or applicate fluid into the dental pulp or root. Presently, typical needles used for these types of procedures are made from relatively inflexible stainless steel. This material has been preferred for its ability to be autoclaved and its relatively inexpensive cost; however, use over time in endodontic applications has revealed several undesirable characteristics. For example, a typical tooth has at least one root. Each root is not straight, but curves toward the centerline of the tooth. The relative rigidity of stainless steel has led to unwanted results when used in root canal surgery due to the needle's inability to bend to the contour of the curved root canal. During a root canal procedure, a dental practitioner drills an opening in a patient's tooth

surface enamel and inner dentine to gain access to the dental pulp and surrounding cavity. A hollow, stainless steel surgical needle is inserted into the opening to remove decaying pulp tissue and irrigate the surrounding cavity with sodium hypochlorite solution. The sodium hypochlorite solution rids the canal of bacteria and other foreign substances before sealant is injected into the canal. The dental pulp cavity is curvately elongate and tapers into the root area of the affected tooth. The rigid nature of a stainless steel needle does not allow the flexion necessary to move through the delicately curved root cavity to reach the most distal end. At present, the dental practitioner must exert extreme care in using the stainless steel needle to avoid puncture of the tooth wall and surrounding jaw. Common dental practice at this time is to pre-bend the needle prior to insertion using an X-ray image as a template. Although pre-bending allows the dental practitioner to insert the needle into the root canal somewhat farther than when the needle is left straight, this method is crude at best and full access to the root canal apex cannot be achieved. Should the dental practitioner meet needle resistance during insertion, he must discontinue insertion or risk damage of the tooth and surrounding area. If this occurs, the practitioner must be satisfied with partial depth insertion and subsequent partial irrigation. The tip of the root cannot be accessed so completely so full aspiration and irrigation cannot be accomplished. If the dental practitioner continues insertion after meeting curvature resistance, the risk of punching a hole in the tooth wall becomes great.

The practice of using endodontic surgical needles fabricated from nickel titanium (NiTi) stainless steel is known under the teachings of U.S. patent No.

5,000,912 issued to Bendel et al among others, in addition to other nickel titanium alloys disclosed in U.S. Patents 4,337,000; 4,565,589; 4,505,767; 4,770,725 and European Patent EP 0 529 675 B1, also granted to Bendel et al. The use of this alloy in connection with conventional endodontic needles has not achieved desired results. The present invention contemplates fabrication of endodontic surgical needles of an alloy of nickel and titanium, per se, including a stainless steel sleeve to allow for manual fixed-angle adjustments in the upper portion of the needle, and a modification of the distal end of the needle to provide a skived, side-vented area.

Summary of the Invention

It is therefore an object of this invention to provide an autoclavable endodontic needle assembly capable of curving to the configuration of a root canal while being inserted therein. The needle is preferably fabricated from a binary NiTi alloy. The preferred binary NiTi alloy contains 55.8 weight percent Nickel. The needle of the present invention may be produced to be pre-bent to a desired angle; the preferred angle chosen is 45 degrees. The present invention may also include an angle-adjustment sleeve around a portion of the needle to allow for manual adjustment of the pre-bent angle. An adhesive-filled supporting hub member grippingly engages the needle shaft to provide connection to a conventional luer lock. The supporting hub configuration may also be pre-bent to a desired angle, such as 45 degrees, with the protruding needle shaft being straight. The options of straight or pre-angled needle, straight or pre-angled hub portion, and manually adjustable angling sleeve are conceived to give the dental practitioner convenient options for ease of use while working within the awkward confines

of a patient's mouth.

Sodium hypochlorite solution, depending upon the solution strength, can be a caustic solution and may have an adverse affect on the preferred binary NiTi alloy. To substantially eliminate the possibility of the solution corroding or deteriorating the NiTi alloy, a coating, such as a parylene polymer, is applied to the needle during its manufacture. While parylene polymers are the preferred coatings, there are other commercially available coatings that provide the same protection. The coating prevents the sodium hypochlorite solution from adversely affecting the physical properties of the dental needle.

It is a further object of the present invention to provide a unique tip for the needle. The tip portion of the present invention includes a skived area at the most distal end of the needle. The skived area allows side venting of irrigation fluid and prevents vacuum build up during aspiration of the root canal. The unique tip is further capable of functioning within the narrow and curved confines of a root canal.

Description of the Drawings

Figure 1 is a longitudinal cross sectional view of a tooth and its normal environment and showing a prior art endodontic needle disposed therein during said procedure.

Figure 2 is a longitudinal cross sectional view of a tooth and its normal environment and showing a prior art endodontic needle disposed therein during said procedure.

Figure 3 is a longitudinal cross section the improved needle of the present invention disposed within the tooth cavity.

Figure 4 is an elevational view of the needle and supporting device of the present invention.

Figure 4a is an elevational view similar to the view of Fig 4, and illustrating an alternate needle and supporting device but with the needle being bent to a predetermined angle.

Figure 5 is a cross sectional view taken along lines 5 - 5 of Fig 4.

Figure 6 is an elevational view of the present invention showing a hydrophobic layer coated on the exterior surface of the supported needle.

Figure 7 is a cross sectional view taken along line 7 - 7 of Figure 6.

Figure 8 is a perspective view of the distal end portion of the coated shaft of the surgical needle made according to the present invention.

Figure 9 illustrates a conventional luer connector modified to include a bend intermediate its ends and arranged to receive and secure the surgical needle as shown in preceding Figures.

Figure 10 is a sectional view taken along lines 10 - 10 of Figure 9.

Figure 11 is an elevational view of the needle, angle-adjustment sleeve and supporting device of the present invention.

Figure 12 is an elevational view similar to the view of Fig 11, and illustrating the angle-adjustment sleeve bent o a desired angle of approximately 45 degrees.

Figure 13 is an elevational view similar to the view of Fig 11, and illustrating the angle-adjustment sleeve bent to a desired angle of approximately 70 degrees.

Figure 14 is a fragmentary perspective view of the present invention, wherein the angle-adjustment sleeve is secured using an adhesive.

Figure 15 is a fragmentary perspective view of an

alternative embodiment of the present invention, wherein the angle-adjustment sleeve is secured using a pressure stressed connection.

Figure 16 is a fragmentary perspective view of an alternative embodiment of the present invention, wherein the angle-adjustment sleeve is secured using a pressure stressed connection

Detailed Description

Although the disclosure hereof is detailed and exact to enable those skilled in the art to practice the invention, the physical embodiments herein disclosed merely exemplify the invention which may be embodied in other specific structure. While the preferred embodiment has been described, the details may be changed without departing from the invention, which is defined by the claims.

Figures 1 and 2 illustrate a prior art dental needle 10' used for endodontic procedures. Needles of this type have been made of relatively rigid stainless steel. This rigidity has created difficulty for the dental practitioner due to their inability to flex and conform to the contours of a typical root canal. As seen in Figure 1, the prior art needle 10' may puncture the root canal wall 12 if undue pressure is exerted in an attempt to insert the needle 10' farther into a tooth 14 than its capability to flex. Figure 2 illustrates the prior art needle 10' as inserted to its maximum depth, without puncture of the root canal wall 12; however, the needle 10' is unable to reach the apical constrictive terminus 16 of the root canal 18 of tooth 14. Partial insertion of the needle 10' results in incomplete irrigation and aspiration of the root canal 18 and prevents the complete removal of decay and dental pulp material required in a successful root canal procedure.

Referring to Figure 3, the needle 10 of the present invention is shown. The needle 10 conforms to the curved contour of the root canal 18 and is thus able to reach the apical constrictive terminus 16 of the root 18 without interruption or diametral confinement. Further, the modified tip 20 allows side venting, thereby reducing undue vacuum and pressure during aspiration and irrigation.

As seen in Figure 4, a preferred embodiment of the needle 10 of the present invention is shown. The needle 10 is preferably mounted in a hub member or apparatus 22. The hub apparatus 22 is preferably provided with a cup-like interior and further includes a conventional LUER ® connector 24. The connector 24 is also commonly referred to as a slip LUER ® or a LUER ® lock fitting. The hub apparatus 22 is molded from autoclavable material, such as Ultim 1000, obtainable from General Electric Corporation. The total needle shaft length, (L) may be of any useful length, although the preferred length is 32.26mm. A portion of the total shaft length (L'), shown in phantom, is grippingly supported by the hub portion 22. The shaft length (L') is secured to the hub portion 22 with an adhesive (not shown) capable of withstanding autoclavable temperatures as for instance, 135° C. An example adhesive is part number 302-3M, obtained from Epoxy Technology of Billerica, Massachusetts. The length of the supported portion (L') may be of any practical length, but in the present embodiment is preferably 7mm. The shaft length (L) is further portioned into a distal end skived portion 20 which, in the preferred embodiment is 1/25th of the needle shaft portion (L) minus the length of the supported portion (L'). In the preferred embodiment (see also Figure 8), this ratio calculated results in a skived portion

length (l) of approximately 1 mm.

Figure 4a illustrates an alternate embodiment needle 10 wherein the needle shaft length (L) is pre-bent for ease of use. Although the shaft length (L) could be pre-bent to any convenient angle, the preferred angle is approximately 45 degrees.

As seen in Figures 5 and 7, a cross section of the modified tip 20 shows the skived portion 26 having an arcuate height (d) of approximately 2/3 the diameter (D) of the needle bore 28. In the preferred embodiment, the diameter (D) of the needle bore 28 is approximately 0.3 mm, although it is to be understood that a greater or lesser bore diameter may also be employed.

Another embodiment of the present invention is seen in Figures 6 and 7. The needle 10 may be provided with a coating 30 to prevent the possibility of corrosion or deterioration of the needle 10 when exposed to a caustic solution such as sodium hypochlorite. One such acceptable coating 30 is a parylene polymer. Parylene polymers have a very low permeability to moisture and other corrosive gases and fluids. A substantially pin hole free coating can be applied to the exposed metallic surfaces of the NiTi needle 10. It has been found that the coating 30 is most effective in the thickness range of 0.1 to 2.0 microns. Parylenes resist room temperature chemical attack and are insoluble in all organic solvents up to 150 degrees Celsius. The polymer is also resistant to permeation by solvents. The ability to deposit parylene as a truly conformal, thin, continuous uniform adherent coating permits enhances its application to the needle 10.

In addition or in lieu of the polymer coating, the needle 10 may be provided with a hydrophobic lubricant

30 to aid in smooth and fluid insertion into the tooth (not shown in this view). The hydrophobic lubricant 30 also helps prevent residual tissue from re-adhering to itself during aspiration.

With reference to Figures 9 and 10, it will be observed that the supporting hub portion 22, itself, may be bent to a predetermined angle, which may be 45°. When the hub portion 22 is bent the needle 10 to be utilized is preferably straight.

As depicted in Figures 11 through 13, inclusive, the present invention may also include an angle-adjustment sleeve 34 for manually pre-bending the needle 10. The adjustment sleeve 34 is preferably made from a fairly rigid material capable of holding the needle 10 at a desired angle, while at the same time being pliable enough to allow for quick adjustment without using tools. It must not kink or bend sharply, but must curve gradually without pinching or compressing the needle 10. The adjustment sleeve 34 may be of any suitable length to hold a desired angle in a desired portion of the needle 10, may be positioned anywhere along the length of the needle 10, and may extend from inside the hub member 22. In the preferred embodiment, the sleeve 34 is made from an annealed stainless steel. It begins just inside the hub member 22 and extends approximately one-third of the exposed length "L" of the needle 10.

The adjustment sleeve 34 may be attached to the needle 10, hub member 22, or both in any conventional fashion. Referring to Figure 14, a method of securing the sleeve 34 includes using an adhesive 36 capable of withstanding autoclavable temperatures as described above, which may or may not be the same adhesive used to secure the needle 10 to the hub member 22. In the preferred embodiment, the adhesive 36 is used to secure

the sleeve 34 to both the hub member 22 and the needle 10.

Referring to Figures 15 and 16, an alternative embodiment of the present invention is depicted, wherein the adjustment sleeve 34 may be secured to the needle with a pressure stressed connection 38. The connection 38 is a deformation in the sleeve 34, such as a crimped or swaged connection, that prevents the sleeve 34 from moving relative to the needle 10. Although the connection 38 secures the sleeve 34 tightly, it does not cause a notable deformation in the needle 10, or prevent dental material from passing through the needle 10. The stressed connection 38 may be made at any location along the length of the sleeve 34, and two included locations are depicted in Figures 15 and 16.

The foregoing is considered as illustrative only of the principles of the invention. Furthermore, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described. While the preferred embodiment has been described, the details may be changed without departing from the invention, which is defined by the claims.

What is claimed is:

1. A surgical needle assembly for endodontic procedures, said assembly comprising:

a needle having one end encapsulated and grippingly supported by a hub member and including a coextensive bore;

said needle further including a protruding hollow shaft portion of predetermined length;

the distal end of said needle including an arcuate longitudinal skived portion having an arcuate height of a predetermined proportional ratio relative to the diameter of said bore.

2. The assembly of claim 1, wherein the height of said skived portion is approximately 2/3 of the diameter of the needle bore.

3. The needle assembly of claim 1 wherein said hub member is arranged for securement to a conventional luer connector.

4. The needle assembly of claim 1 wherein said hollow shaft portion includes a predetermined angular bend.

5. The needle assembly of claim 1 wherein said predetermined bend defines an approximate 45-degree angle.

6. The needle assembly of claim 1 wherein said hollow shaft portion is coated with a corrosion-resistant coating.

7. The needle assembly of claim 1 wherein said

hollow shaft portion is coated with a parylene polymer.

8. The needle assembly of claim 1 wherein said hollow shaft portion is coated with a hydrophobic lubricating agent.

9. The needle assembly of claim 1 wherein said hollow shaft portion is coated with a parlyene polymer and a hydrophobic lubricating agent.

10. The needle assembly of claim 1 wherein the material of said needle is fabricated from a binary NiTi alloy.

11. The needle assembly of claim 10 wherein said NiTi alloy contains 55.8 weight percent Nickel.

12. The needle assembly of claim 3 wherein said hub member is further provided with an intermediate bent portion.

13. The needle assembly of claim 1 wherein said assembly is able to withstand autoclave temperatures.

14. The assembly of claim 13 wherein the autoclave temperature is approximately 135°C.

15. A method of fabricating a surgical needle assembly for endodontic procedures including the steps of:

providing a tubular shaft;

die cutting said shaft to provide a surgical needle of predetermined length;

machining one end of said needle to provide a skived portion of predetermined length;

providing a hub member having a cup-like interior;

supplying an autoclavable adhesive to the cup-like interior of said hub member; and

inserting the opposite end in said adhesive

for retention and support thereof by said hub member.

16. The method of claim 15, wherein the method further includes the steps of:

providing an angle-adjustment sleeve;

supplying an autoclavable adhesive to the hub member;

placing said angle-adjustment sleeve over the needle and into said adhesive for retention and support thereof by said hub member.

17. The method of claim 15, wherein the method further includes the steps of:

providing an angle-adjustment sleeve;

positioning said angle-adjustment sleeve over said needle;

forming a pressure stressed connection between said angle-adjustment and said needle by deforming said angle-adjustment sleeve.

18. A surgical needle assembly for endodontic procedures, said assembly comprising:

a needle having one end encapsulated and grippingly supported by a hub member and including a coextensive bore;

said needle further including a protruding hollow shaft portion of predetermined length;

an angle-adjustment sleeve surrounding a portion of said needle;

the distal end of said needle including an arcuate longitudinal skived portion having an arcuate height of a predetermined proportional ratio relative to the diameter of said bore.

19. The needle assembly of claim 18, wherein the angle-adjustment sleeve is formed from an annealed stainless steel.

20. The needle assembly of claim 18, wherein the angle-adjustment sleeve is secured to said hub member.

21. The needle assembly of claim 18, wherein the angle-adjustment sleeve is adhesively secured to said hub member.

22. The needle assembly of claim 18, wherein the angle-adjustment sleeve is secured to said hub member using a pressure stressed connection.

23. The needle assembly of claim 18, wherein the angle-adjustment sleeve surrounds approximately one-third of the needle protruding hollow shaft portion.

Abstract:

An autoclavable needle assembly and method of making the same is provided for endodontic surgical procedures. The needle assembly includes a supporting hub member containing an adhesive in which one end of the needle is embedded. The surgical needle is preferably fabricated from NiTi alloy and includes, at its distal end, a side vent in the form of a skived portion extending a predetermined distance inwardly from the tip from the distal end of the needle. One or more coatings may be applied to the needle. An angle-adjustment sleeve can be bent to hold a desired angle in the needle.

PRIOR ART

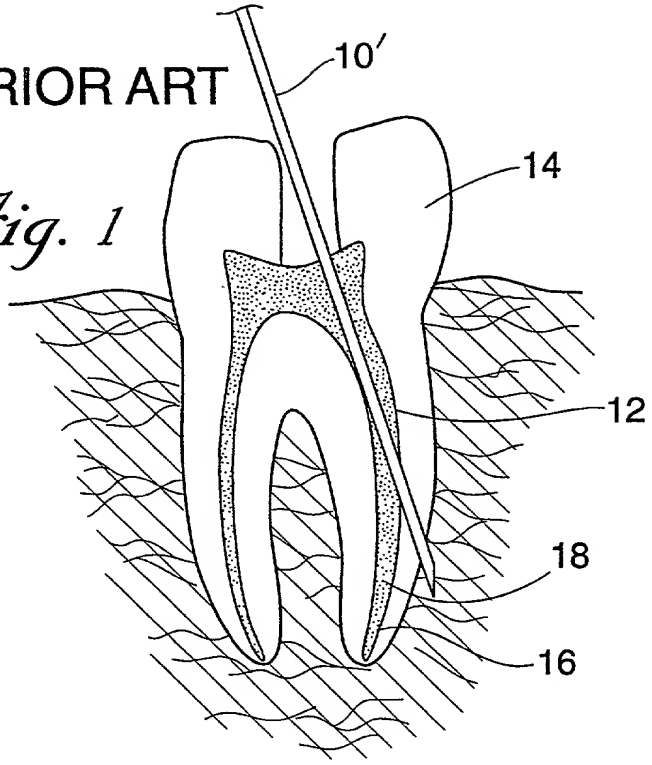

Fig. 1

PRIOR ART

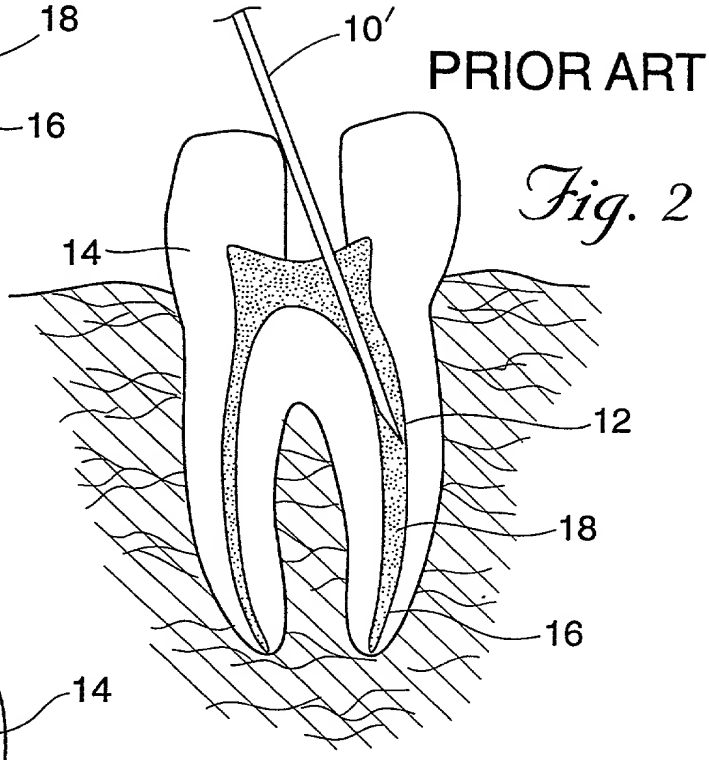

Fig. 2

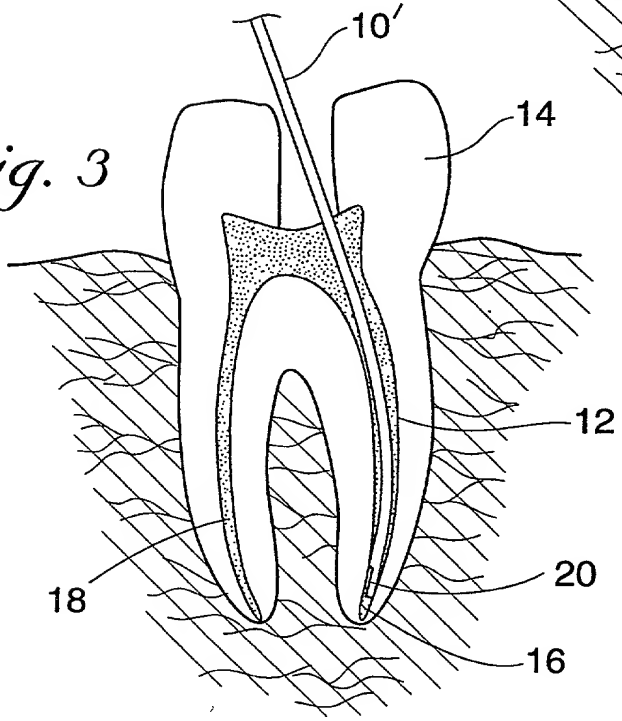

Fig. 3

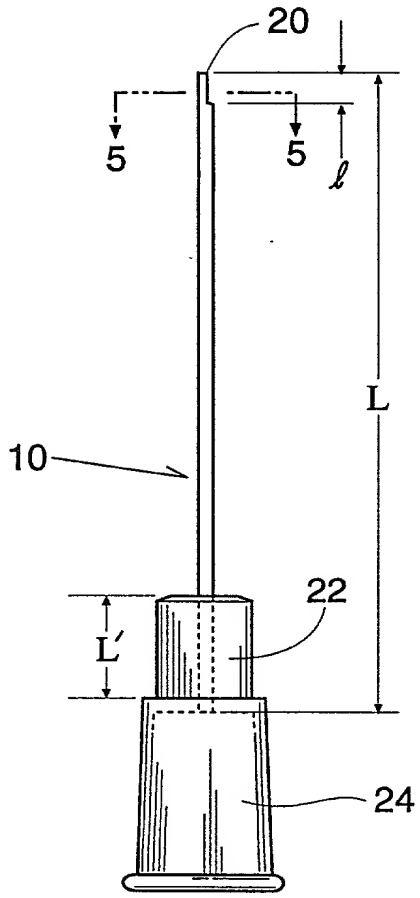

Fig. 4

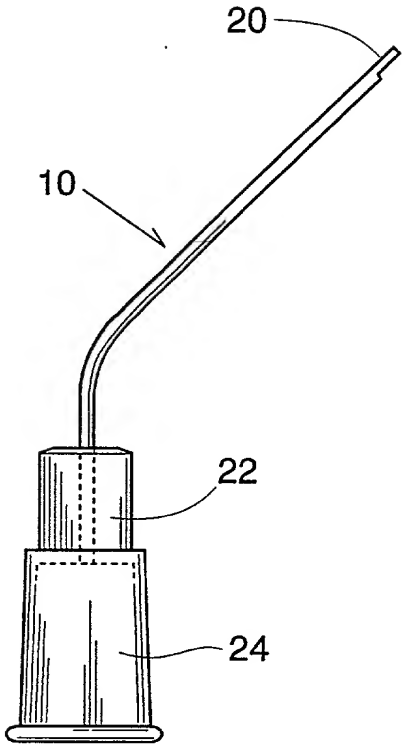

Fig. 4a

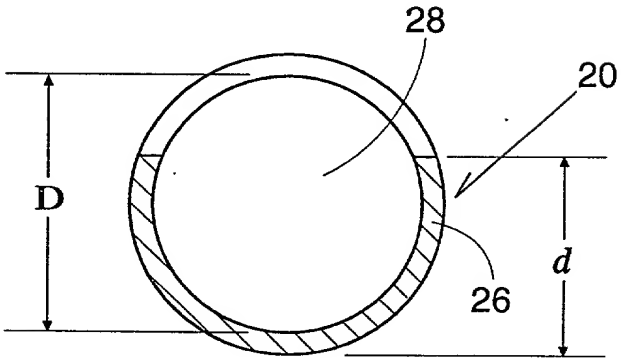

Fig. 5

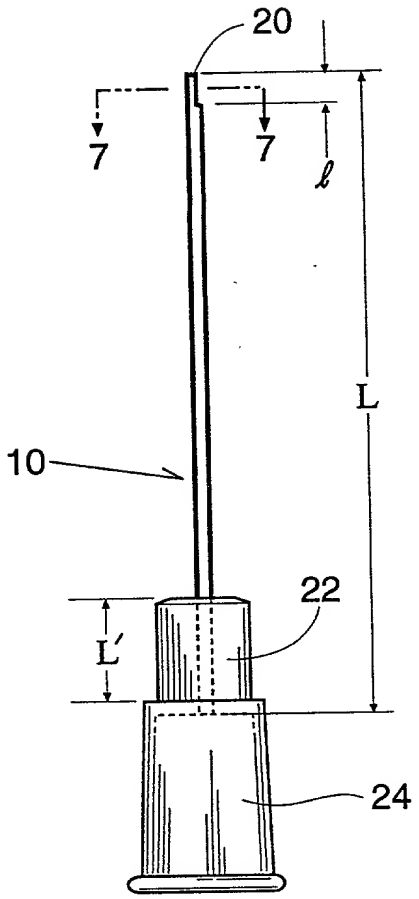

Fig. 6

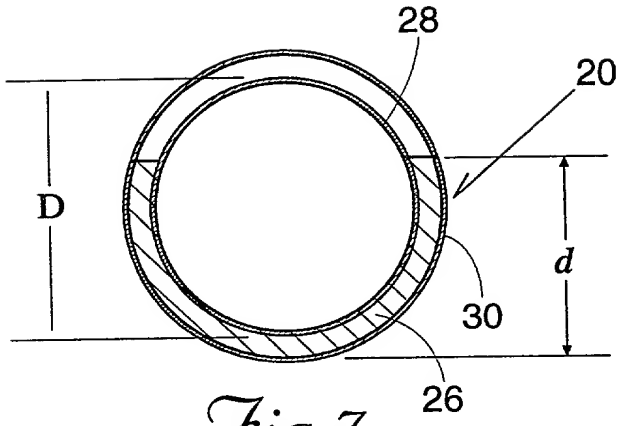

Fig. 7

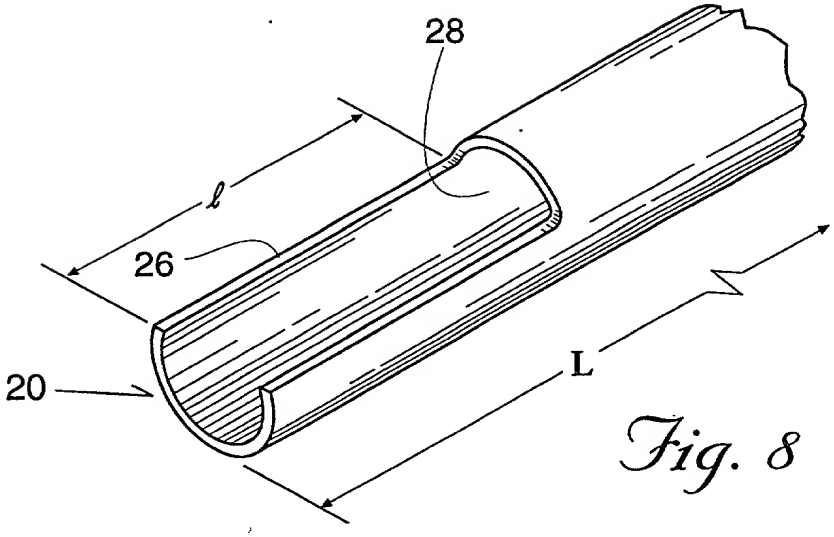

Fig. 8

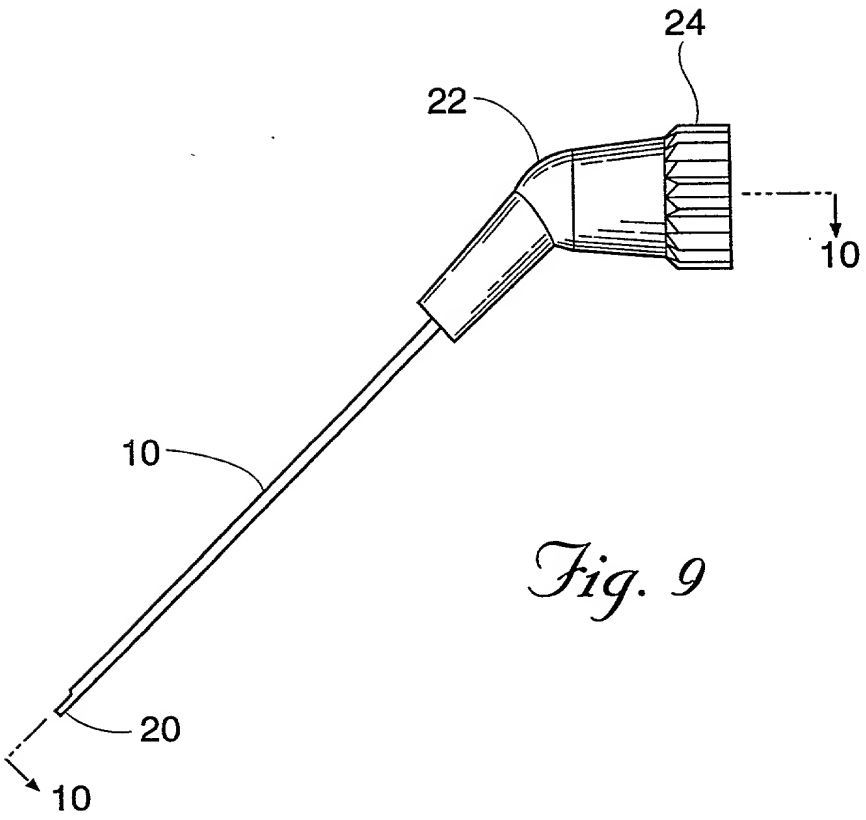

Fig. 9

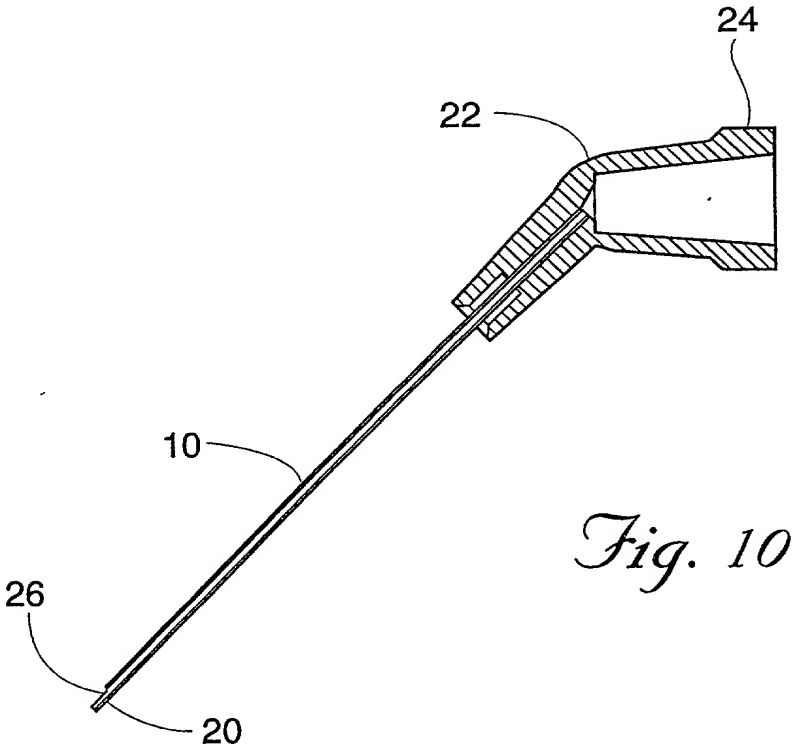

Fig. 10

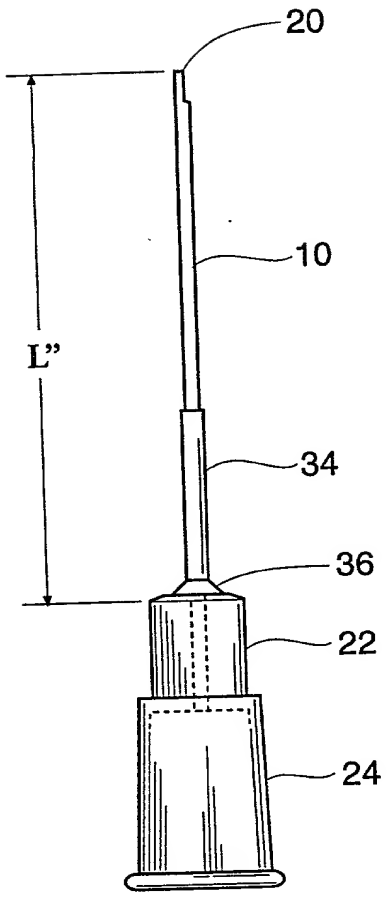

Fig. 11

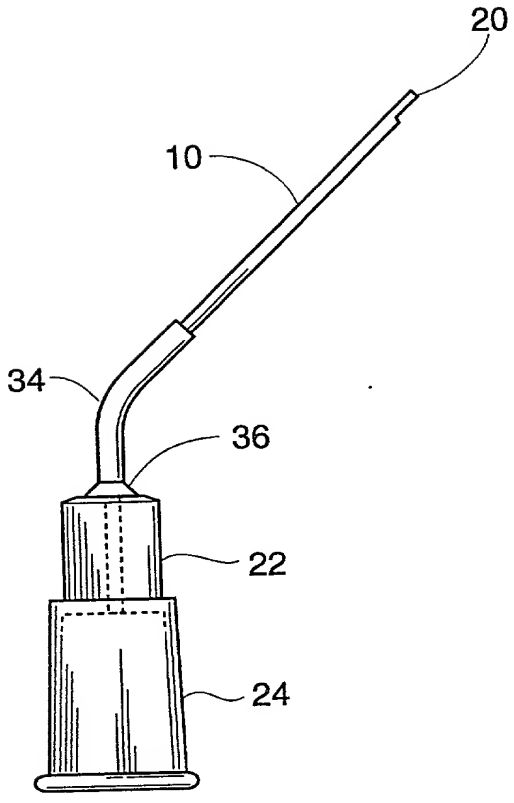

Fig. 12

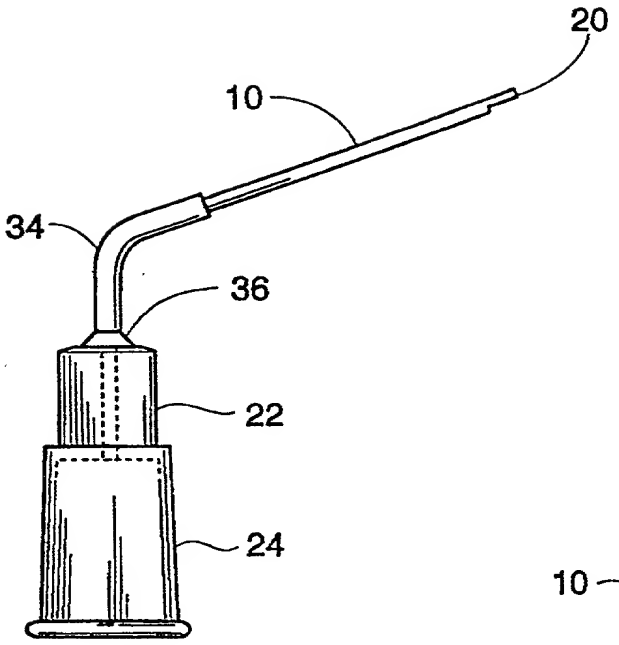

Fig. 13

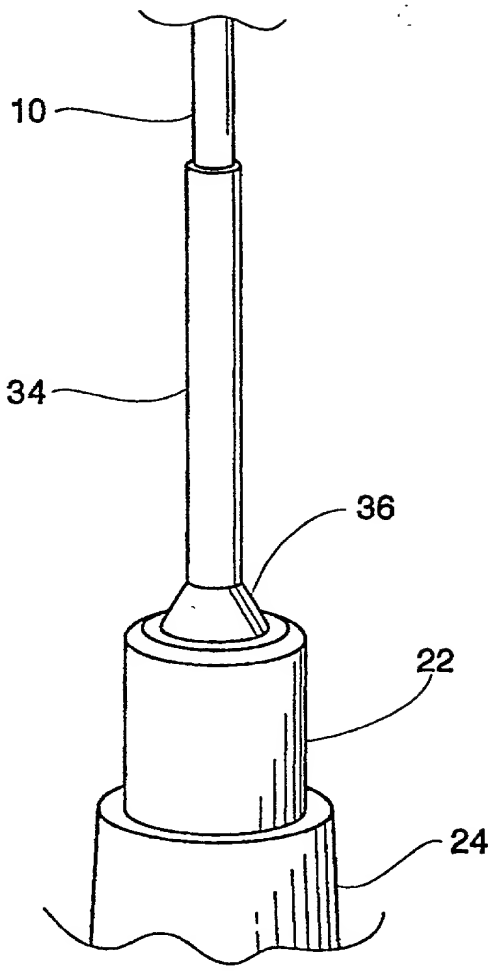

Fig. 14

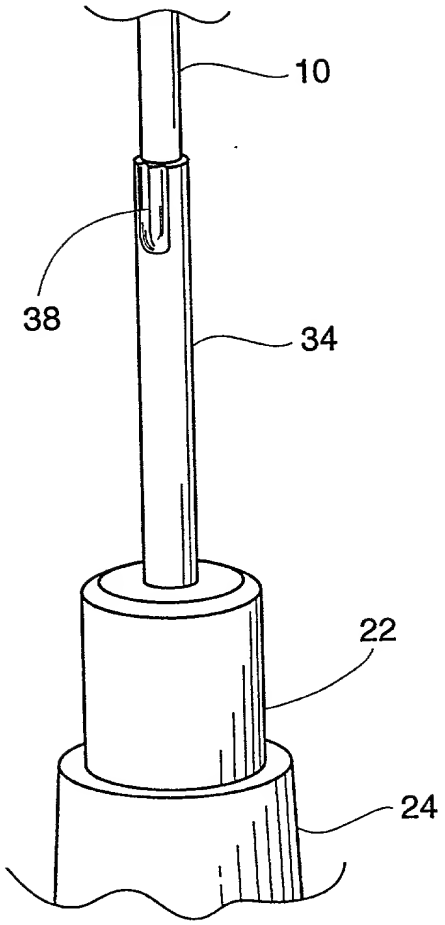

Fig. 15

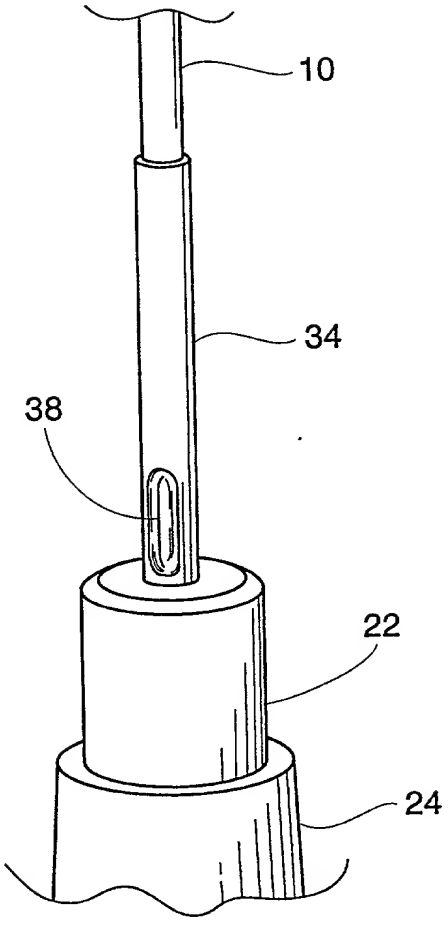

Fig. 16

Docket No.
4285-16408-CIP

Declaration and Power of Attorney For Patent Application

English Language Declaration

As a below named inventor, I hereby declare that:

My residence, post office address and citizenship are as stated below next to my name,

I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled

Nickel Titanium Dental Needle

the specification of which

(check one)

☒ is attached hereto.

☐ was filed on _____ as United States Application No. or PCT International Application Number _____

and was amended on _____

(if applicable)

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, Section 1.56.

I hereby claim foreign priority benefits under Title 35, United States Code, Section 119(a)-(d) or Section 365(b) of any foreign application(s) for patent or inventor's certificate, or Section 365(a) of any PCT International application which designated at least one country other than the United States, listed below and have also identified below, by checking the box, any foreign application for patent or inventor's certificate or PCT International application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application(s)			Priority Not Claimed
_____ (Number)	_____ (Country)	_____ (Day/Month/Year Filed)	☐
_____ (Number)	_____ (Country)	_____ (Day/Month/Year Filed)	☐
_____ (Number)	_____ (Country)	_____ (Day/Month/Year Filed)	☐

I hereby claim the benefit under 35 U.S.C. Section 119(e) of any United States provisional application(s) listed below:

(Application Serial No.)	(Filing Date)
(Application Serial No.)	(Filing Date)
(Application Serial No.)	(Filing Date)

I hereby claim the benefit under 35 U. S. C. Section 120 of any United States application(s), or Section 365(c) of any PCT International application designating the United States, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of 35 U.S.C. Section 112, I acknowledge the duty to disclose to the United States Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, C. F. R., Section 1.56 which became available between the filing date of the prior application and the national or PCT International filing date of this application:

09/435,658	**8 November 1999**	**Pending**
(Application Serial No.)	(Filing Date)	(Status) (patented, pending, abandoned)
(Application Serial No.)	(Filing Date)	(Status) (patented, pending, abandoned)
(Application Serial No.)	(Filing Date)	(Status) (patented, pending, abandoned)

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the Patent and Trademark Office connected therewith. *(list name and registration number)*

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John M. Manion, Reg. No. 38,957
Allan O. Maki, Reg. No. 20,623
Arnold J. Ericsen, Reg. No. 16,879
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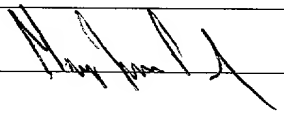
Full name of sole or first inventor **Gary J. Pond**
Sole or first inventor's signature  30 Aug 00 Date
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Full name of second inventor, if any
Second inventor's signature Date
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